

### **REMARKS**

Applicants have canceled claims 21, 23, 47, 61-65, and 67-69, without prejudice or disclaimer of their subject matter, amended claim 70 to more appropriately define the present invention, and amended claims 22, 26, and 48 to correct claim dependencies. Claims 22, 26, 48, 70-75, and 78 remain pending and under current examination.

#### **Regarding the Final Office Action:**

In the Final Office Action, the Examiner rejected claims 21-23, 26, 47, 61-65, and 67-75 under 35 U.S.C. § 103(a) as unpatentable over Applicants' Admitted Prior Art ("AAPA") in view of Kogure, et al. (JP 02-276109) ("Kogure"); rejected claim 48 under 35 U.S.C. § 103(a) as unpatentable over AAPA in view of Romankiw (U.S. Patent No. 3,908,194) ("Romankiw"); and rejected claim 78 under 35 U.S.C. § 103(a) as unpatentable over AAPA in view of Kogure and in further view of Romankiw. Applicants traverse the rejections, as detailed above, for the following reasons.<sup>1</sup>

#### **Regarding the Rejection of Claims 21-23, 26, 47, 48, 61-65, and 67-75 under 35 U.S.C. § 103(a):**

The Examiner rejected claims 21-23, 26, 47, 48, 61-65, and 67-75 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Kogure. Claims 21, 23, 47, 61-65, and 67-69 have been canceled, without prejudice or disclaimer of their subject matter, thereby rendering the rejection of these claims moot. Regarding claims 22, 26, 48, and 70-75, Applicants respectfully traverse the rejection, and submit that a *prima facie* case of obviousness has not been established.

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<sup>1</sup> The Office Action contains statements characterizing the related art, case law, and the claims. Regardless of whether any such statements are specifically identified herein, Applicant declines to automatically subscribe to any statements in the Office Action.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). M.P.E.P. § 2142, 8th Ed., Rev. 2 (May 2004), p. 2100-128.

On page 3 of the Final Office Action, the Examiner admitted AAPA is silent as to an amorphous and metal crystal underlayer, and alleged that

Kogure et al shows in figure 1 an amorphous and metal crystal, which is Cr, underlayer. The underlayer has a thickness of 5 to 50 nm. *Note: Since the boundaries of the thickness have not been set forth in the claims and Kogure et al has at least one layer between 5 to 50 nm and the claims require an underlayer comprising (which is synonymous with including, which is defined as 'To have or take in as a part or member'), the underlayer of Kogure et al has a thickness of 5 to 50nm. (See Final Office Action, p. 3, italics in original.)*

Applicants respectfully disagree for the following reasons.

Amended claim 70 recites, "... an under-layer having a thickness of 5 to 50 nm disposed between the substrate and the hard magnetic film, the under-layer being composed of an amorphous layer formed on the main surface of the substrate and a metal crystal layer formed on the amorphous layer." According to claim 70, the under-layer is composed of two layers of the amorphous layer and the crystal layer, and thickness of the under-layer, which is a total thickness of both of the amorphous layer and the crystal layer, this total thickness being in the range of 5 to 50 nm. As the thickness of the under-layer is in range of 5 to 50 nm, a Co-type hard magnetic film having excellent magnetic characteristics can be obtained (See Applicants' specification at, for example, p. 22, line 28 - p. 23, line 9).

In contrast, Kogure teaches a magnetic recording medium having a first amorphous under-layer and a second metal under-layer, where a total thickness of both is beyond the range of 5 to 50 nm. Kogure only teaches “*a thickness of the first under-layer is preferably in the range of 10 to 50 nm, more preferably 20 to 35 nm*” (italics added), and there is no mention as to a preferable total thickness of the under-layer, nor a thickness of the second under-layer. All three embodiments of Kogure teach a 30 nm thickness of the first under-layer and a 150 nm thickness of the second under-layer, *resulting in a total thickness of 180 nm*, which is far beyond Applicants’ claimed range of 5 to 50 nm. See Kogure, English translation, pp. 9-10.

The Examiner’s argument is based on the idea that Kogure has at least one layer of between 5 to 50 nm (the first under-layer). However, the Examiner overlooked the fact that Kogure’s first under-layer of between 5 to 50 nm is not “composed of an amorphous layer formed on the main surface of the substrate and a metal crystal layer formed on the amorphous layer,” as recited in claim 70.

Therefore, Kogure fails to teach or suggest at least Applicants’ claimed “an under-layer having a thickness of 5 to 50 nm disposed between the substrate and the hard magnetic film, the under-layer being composed of an amorphous layer formed on the main surface of the substrate and a metal crystal layer formed on the amorphous layer.” Thus, AAPA, in combination with Kogure, does not teach or suggest each and every feature of claim 70. Accordingly, a *prima facie* case of obviousness of independent claim 70 has not been established.

Claim 70 is allowable for the reasons presented above, and claims 22, 26, 48, and 71-75 are also allowable at least by virtue of their dependence from allowable base claim 70. Therefore, the improper 35 U.S.C. § 103(a) rejection of claims 22, 26, 48, and 70-75 should be withdrawn.

**Regarding the Rejection of Claim 48 under 35 U.S.C. § 103(a):**

Applicants respectfully traverse the rejection of claim 48 under 35 U.S.C. § 103(a) as unpatentable over AAPA in view of Romankiw. Applicants disagree with the Examiner's arguments and conclusions. A *prima facie* case of obviousness has not been established.

Applicants have already demonstrated previously herein that AAPA, taken alone or in combination with Kogure, does not teach or suggest all the elements of Applicants' independent claim 70, from which claim 48 depends. The Examiner cited Romankiw to allegedly cure AAPA's deficiency pertaining to dependent claim 48 only, as AAPA "is silent as to a magnetic recording/reproducing head" (Final Office Action, p. 4). Nevertheless, Romankiw does not cure AAPA's deficiencies as applied to Applicants' independent claim 70, as discussed above.

The Examiner has therefore not met at least one of the essential criteria for establishing a *prima facie* case of obviousness. The Examiner's citation of AAPA in view of Romankiw against Applicants' claim 48 is not sufficient for the Examiner to establish *prima facie* obviousness. Thus, dependent claim 48 is allowable for the reasons presented herein, and at least by virtue of its dependence from allowable base claim 70. Therefore, the improper 35 U.S.C. § 103(a) rejection of claim 48 should be withdrawn.

**Regarding the Rejection of Claim 78 under 35 U.S.C. § 103(a):**

Applicants respectfully traverse the rejection of claim 78 under 35 U.S.C. § 103(a) as unpatentable over AAPA in view of Kogure and in further view of Romankiw. Applicants disagree with the Examiner's arguments and conclusions. A *prima facie* case of obviousness has not been established.

Applicants have already demonstrated previously herein that AAPA, taken alone or in combination with Kogure, does not teach or suggest all the elements of Applicants' independent

claim 70, from which claim 78 depends. The Examiner cited Romankiw to allegedly cure AAPA's deficiency pertaining to dependent claim 78 only, again pointing out that AAPA "is silent as to a magnetic recording/reproducing head" (Final Office Action, p. 5). Nevertheless, Romankiw does not cure AAPA's or Kogure's deficiencies as applied to Applicants' independent claim 70, as discussed above.

The Examiner has therefore not met at least one of the essential criteria for establishing a *prima facie* case of obviousness. The Examiner's citation of AAPA in view of Kogure and in further view of Romankiw against Applicants' claim 78 is not sufficient for the Examiner to establish *prima facie* obviousness. Thus, dependent claim 78 is allowable for the reasons presented herein, and at least by virtue of its dependence from allowable base claim 70. Therefore, the improper 35 U.S.C. § 103(a) rejection of claim 78 should be withdrawn.

**Conclusion:**

In view of the foregoing, Applicants request reconsideration of the application and withdrawal of the rejections. Pending claims 22, 26, 48, 70-75, and 78 are in condition for allowance, and Applicants request a favorable action.

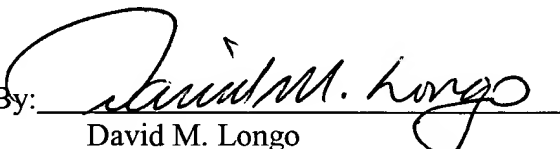
Should the Examiner continue to dispute the patentability of the claims after consideration of this Amendment, Applicants encourage the Examiner to contact the undersigned representative by telephone to discuss any remaining issues or to resolve any misunderstandings.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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